

STN-CAS search

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 964 AND 970 AND 2067

L1 SCREEN CREATED

=> screen 1821 OR 1822 OR 1823 OR 1824

L2 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09715041-isobornyl.str

L3 STRUCTURE UPLOADED

=> que L3 AND L1 AND L2

L4 QUE L3 AND L1 AND L2

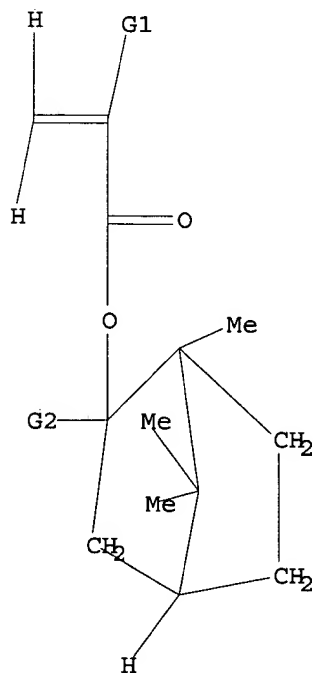
=> d

L4 HAS NO ANSWERS

L1 SCR 964 AND 970 AND 2067

L2 SCR 1821 OR 1822 OR 1823 OR 1824

L3 STR



G1 H, Me

G2 CH2, Et

DO
NOT

REMOVE !!

~~2-methyl-2-isobornyl~~
2-methyl-2-isobornyl

Structure attributes must be viewed using STN Express query preparation.
L4 QUE ABB=ON PLU=ON L3 AND L1 AND L2

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 970 AND 2067

L5 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09715041-norbornyl.str

L6 STRUCTURE UPLOADED

=> que L6 AND L5

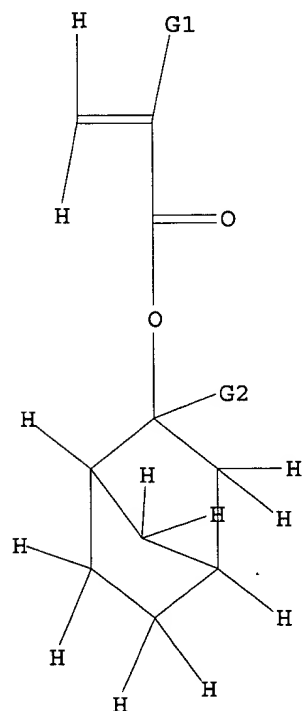
L7 QUE L6 AND L5

=> d

L7 HAS NO ANSWERS

L5 SCR 970 AND 2067

L6 STR



norbornyl

G1 H, Me

G2 Me, Et

Structure attributes must be viewed using STN Express query preparation.
L7 QUE ABB=ON PLU=ON L6 AND L5

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 970 AND 2067

L8 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09715041-tricyclodecanyl.str

L9 STRUCTURE UPLOADED

=> que L9 AND L8

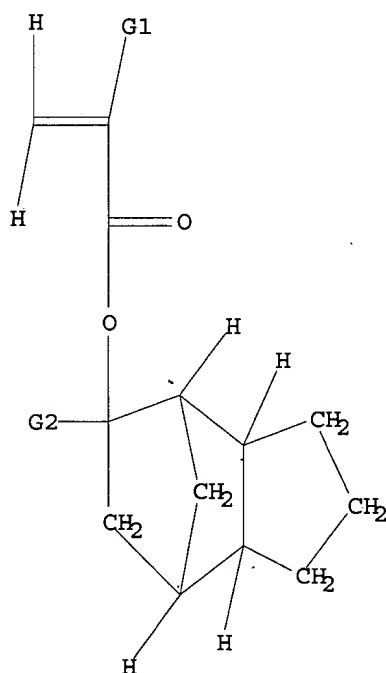
L10 QUE L9 AND L8

=> d

L10 HAS NO ANSWERS

L8 SCR 970 AND 2067

L9 STR



G1 H, Me

G2 CH2, Et

Structure attributes must be viewed using STN Express query preparation.

L10 QUE ABB=ON PLU=ON L9 AND L8

=> s (l4 or l7 or l10)

L4 MAY NOT BE USED HERE

The L-number entered was not created by a STRUCTURE or SCREEN command.

=> d his

(FILE 'HOME' ENTERED AT 11:36:18 ON 06 JAN 2003)

FILE 'REGISTRY' ENTERED AT 11:36:22 ON 06 JAN 2003

L1 SCREEN 964 AND 970 AND 2067
L2 SCREEN 1821 OR 1822 OR 1823 OR 1824
L3 STRUCTURE UPLOADED
L4 QUE L3 AND L1 AND L2
L5 SCREEN 970 AND 2067
L6 STRUCTURE UPLOADED
L7 QUE L6 AND L5
L8 SCREEN 970 AND 2067
L9 STRUCTURE UPLOADED
L10 QUE L9 AND L8

=> s 14

SAMPLE SEARCH INITIATED 11:38:12 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 4 TO ITERATE

100.0% PROCESSED 4 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 4 TO 200
PROJECTED ANSWERS: 0 TO 0

L11 0 SEA SSS SAM L3 AND L1 AND L2

=> s 17

SAMPLE SEARCH INITIATED 11:38:16 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 94 TO ITERATE

100.0% PROCESSED 94 ITERATIONS 6 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1299 TO 2461
PROJECTED ANSWERS: 6 TO 266

L12 6 SEA SSS SAM L6 AND L5

=> s 110

SAMPLE SEARCH INITIATED 11:38:21 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 74 TO ITERATE

100.0% PROCESSED 74 ITERATIONS 5 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 964 TO 1996
PROJECTED ANSWERS: 5 TO 233

L13 5 SEA SSS SAM L9 AND L8

=> d 112

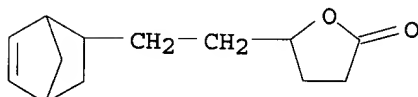
L12 ANSWER 1 OF 6 REGISTRY COPYRIGHT 2003 ACS
RN 409093-65-8 REGISTRY
CN 2-Propenoic acid, 2-methyl-, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer
with 5-(2-bicyclo[2.2.1]hept-5-en-2-ylethyl)dihydro-2(3H)-furanone and
2,5-furandione (9CI) (CA INDEX NAME)
MF (C13 H20 O2 . C13 H18 O2 . C4 H2 O3)x
CI PMS
PCT Polyacrylic, Polyester, Polyester formed, Polyvinyl
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 370089-03-5

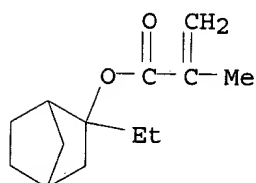
CMF C13 H18 O2



CM 2

CRN 330595-98-7

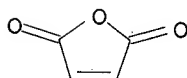
CMF C13 H20 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



1 REFERENCES IN FILE CA (1962 TO DATE)

1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

=> d his

(FILE 'HOME' ENTERED AT 11:36:18 ON 06 JAN 2003)

FILE 'REGISTRY' ENTERED AT 11:36:22 ON 06 JAN 2003

L1	SCREEN 964 AND 970 AND 2067
L2	SCREEN 1821 OR 1822 OR 1823 OR 1824
L3	STRUCTURE UPLOADED
L4	QUE L3 AND L1 AND L2
L5	SCREEN 970 AND 2067
L6	STRUCTURE UPLOADED
L7	QUE L6 AND L5
L8	SCREEN 970 AND 2067
L9	STRUCTURE UPLOADED
L10	QUE L9 AND L8
L11	0 S L4
L12	6 S L7
L13	5 S L10

```
=> s (l11 or l12 or l13)
L14      11 (L11 OR L12 OR L13)

=> s l14 and (maleic (w) anhydride)
      10865 MALEIC
      49993 ANHYDRIDE
      10 ANHYDRIDES
      49993 ANHYDRIDE
      (ANHYDRIDE OR ANHYDRIDES)
      7640 MALEIC (W) ANHYDRIDE
L15      0 L14 AND (MALEIC (W) ANHYDRIDE)
```

```
=> s 108-31-6/crn
L16      21744 108-31-6/CRN
```

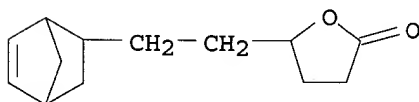
```
=> s l16 and l14
L17      5 L16 AND L14
```

```
=> d l17 1-5
```

```
L17 ANSWER 1 OF 5  REGISTRY  COPYRIGHT 2003 ACS
RN  409093-65-8  REGISTRY
CN  2-Propenoic acid, 2-methyl-, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer
    with 5-(2-bicyclo[2.2.1]hept-5-en-2-ylethyl)dihydro-2(3H)-furanone and
    2,5-furandione (9CI)  (CA INDEX NAME)
MF  (C13 H20 O2 . C13 H18 O2 . C4 H2 O3)x
CI  PMS
PCT Polyacrylic, Polyester, Polyester formed, Polyvinyl
SR  CA
LC  STN Files:  CA, CAPLUS, USPATFULL
```

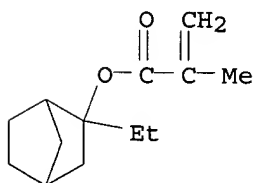
```
CM  1
```

```
CRN  370089-03-5
CMF  C13 H18 O2
```



```
CM  2
```

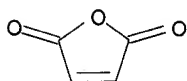
```
CRN  330595-98-7
CMF  C13 H20 O2
```



```
CM  3
```

```
CRN  108-31-6
```

CMF C4 H2 O3



1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L17 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2003 ACS

RN 358626-11-6 REGISTRY

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-, 1,1-dimethylethyl ester, polymer with 2,5-furandione, 2-methylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2-methylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2,5-Furandione, polymer with 1,1-dimethylethyl 1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalene-2-carboxylate, 2-methylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2-methylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI)

CN 2-Propenoic acid, 2-methyl-, 2-methylbicyclo[2.2.1]hept-2-yl ester, polymer with 1,1-dimethylethyl 1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalene-2-carboxylate, 2,5-furandione and 2-methylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI)

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-methylbicyclo[2.2.1]hept-2-yl ester, polymer with 1,1-dimethylethyl 1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalene-2-carboxylate, 2,5-furandione and 2-methylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI)

MF (C17 H24 O2 . C16 H22 O2 . C12 H18 O2 . C4 H2 O3)x

CI PMS

PCT Polyacrylic, Polyether, Polyvinyl

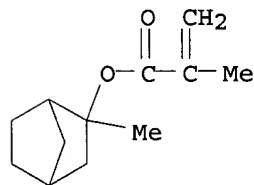
SR CA

LC STN Files: CA, CAPLUS

CM 1

CRN 344614-23-9

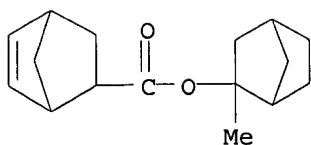
CMF C12 H18 O2



CM 2

CRN 328087-77-0

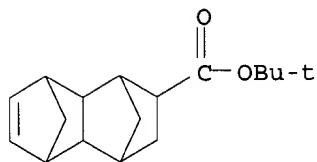
CMF C16 H22 O2



CM 3

CRN 195057-79-5

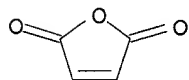
CMF C17 H24 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



1 REFERENCES IN FILE CA (1962 TO DATE)

1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L17 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2003 ACS

RN 348089-11-2 REGISTRY

CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester,
polymer with 2,5-furandione (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2,5-Furandione, polymer with 5-ethyloctahydro-4,7-methano-1H-inden-5-yl
2-propenoate (9CI)

MF (C15 H22 O2 . C4 H2 O3)x

CI PMS

PCT Polyacrylic, Polyvinyl

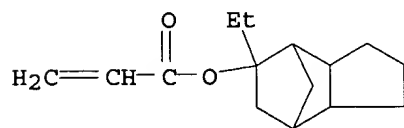
SR CA

LC STN Files: CA, CAPLUS

CM 1

CRN 307495-75-6

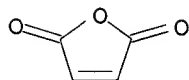
CMF C15 H22 O2



CM 2

CRN 108-31-6

CMF C4 H2 O3



1 REFERENCES IN FILE CA (1962 TO DATE)

1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L17 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2003 ACS

RN 290809-11-9 REGISTRY

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, (1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl ester, rel-, polymer with rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, 2,5-furandione and tricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2,5-Furandione, polymer with rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate, rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate and tricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate (9CI)

CN 2-Propenoic acid, 2-methyl-, (1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl ester, rel-, polymer with rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,5-furandione and tricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate (9CI)

CN 2-Propenoic acid, 2-methyl-, tricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate, rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate and 2,5-furandione (9CI)

FS STEREOSEARCH

MF (C17 H24 O2 . C14 H20 O2 . C13 H20 O2 . C4 H2 O3)x

CI PMS

PCT Polyacrylic, Polyether, Polyvinyl

SR CA

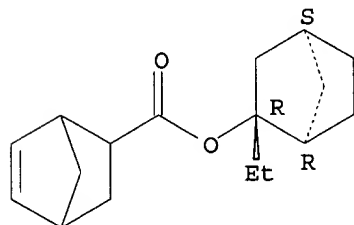
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 290808-30-9

CMF C17 H24 O2

Relative stereochemistry.

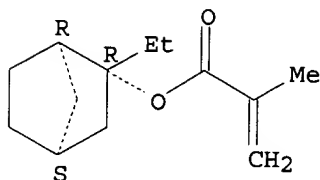


CM 2

CRN 271598-68-6

CMF C13 H20 O2

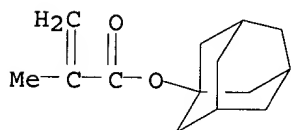
Relative stereochemistry.



CM 3

CRN 16887-36-8

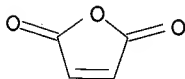
CMF C14 H20 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



1 REFERENCES IN FILE CA (1962 TO DATE)

1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L17 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2003 ACS

RN 290809-04-0 REGISTRY

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, (1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl ester, rel-, polymer with rel-(3aR,4S,5R,7S,7aR)-5-ethyloctahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2,5-Furandione, polymer with rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate and rel-(3aR,4S,5R,7S,7aR)-5-ethyloctahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate (9CI)

CN 2-Propenoic acid, 2-methyl-, (3aR,4S,5R,7S,7aR)-5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester, rel-, polymer with rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2,5-furandione (9CI)

FS STEREOSEARCH

MF (C17 H24 O2 . C16 H24 O2 . C4 H2 O3)x

CI PMS

PCT Polyacrylic, Polyether, Polyvinyl

SR CA

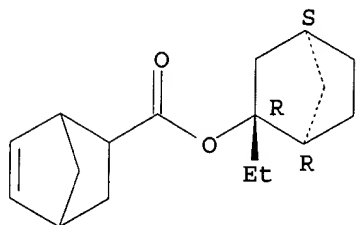
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 290808-30-9

CMF C17 H24 O2

Relative stereochemistry.

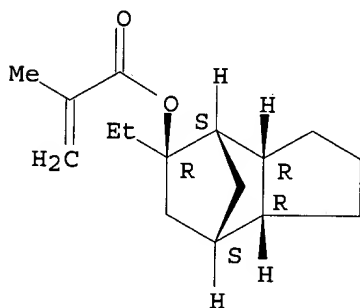


CM 2

CRN 271598-65-3

CMF C16 H24 O2

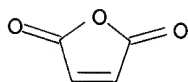
Relative stereochemistry.



CM 3

CRN 108-31-6

CMF C4 H2 O3



1 REFERENCES IN FILE CA (1962 TO DATE)

1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

=> d his

(FILE 'HOME' ENTERED AT 11:36:18 ON 06 JAN 2003)

FILE 'REGISTRY' ENTERED AT 11:36:22 ON 06 JAN 2003

L1	SCREEN 964 AND 970 AND 2067
L2	SCREEN 1821 OR 1822 OR 1823 OR 1824
L3	STRUCTURE UPLOADED
L4	QUE L3 AND L1 AND L2
L5	SCREEN 970 AND 2067
L6	STRUCTURE UPLOADED
L7	QUE L6 AND L5
L8	SCREEN 970 AND 2067

L9 STRUCTURE UPLOADED
 L10 QUE L9 AND L8
 L11 0 S L4
 L12 6 S L7
 L13 5 S L10
 L14 11 S (L11 OR L12 OR L13)
 L15 0 S L14 AND (MALEIC (W) ANHYDRIDE)
 L16 21744 S 108-31-6/CRN
 L17 5 S L16 AND L14

=> FIL HCAPLUS, CAPLUS, USPATFULL		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	22.12	22.33

FILE 'HCAPLUS' ENTERED AT 11:41:29 ON 06 JAN 2003
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CAPLUS' ENTERED AT 11:41:29 ON 06 JAN 2003
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 11:41:29 ON 06 JAN 2003
 CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l17
 L18 10 L17

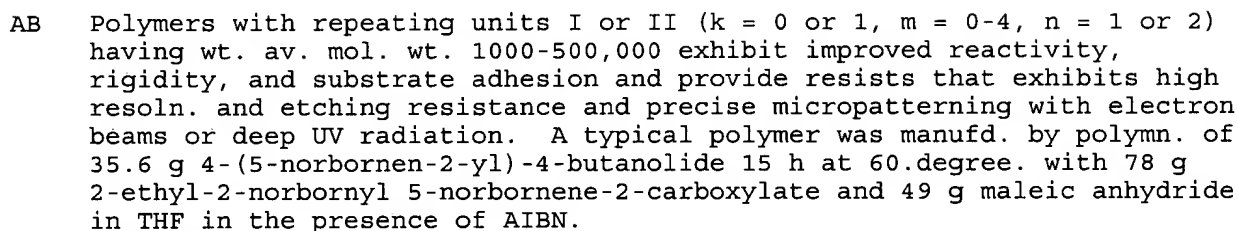
=> duplicate
 ENTER REMOVE, IDENTIFY, ONLY, OR (?):remove
 ENTER L# LIST OR (END):l18
 DUPLICATE PREFERENCE IS 'HCAPLUS, CAPLUS, USPATFULL'
 KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
 PROCESSING COMPLETED FOR L18
 L19 6 DUPLICATE REMOVE L18 (4 DUPLICATES REMOVED)

=> d l19 1-6 ibib abs hitstr

L19 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
 ACCESSION NUMBER: 2002:272837 HCAPLUS
 DOCUMENT NUMBER: 136:310309
 TITLE: Polymers with cyclopentane rings in or adjacent to the
 chains, resist composition and patterning process
 INVENTOR(S): Nishi, Tsunehiro; Nakashima, Mutsuo; Hasegawa, Koji;
 Tachibana, Seiichiro; Kinsho, Takeshi; Watanabe,
 Takeru; Hatakeyama, Jun
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 47 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1195390	A1	20020410	EP 2001-307791	20010913
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002161116	A2	20020604	JP 2001-269745	20010906
US 2002061463	A1	20020523	US 2001-951523	20010914

9-14-01



RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

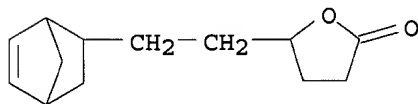
(polymers with cyclopentane rings in or adjacent to the chains for resists patternable by UV or electron beams)

2-Propenoic acid, 2-methyl-, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer
with 5-(2-bicyclo[2.2.1]hept-5-en-2-ylethyl) dihydro-2(3H)-furanone and
2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 370089-03-5

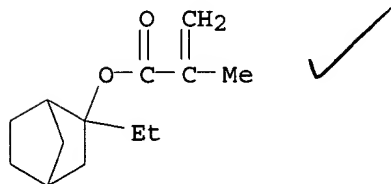
CMF C13 H18 O2

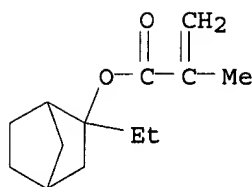


CM 2

CRN 330595-98-7

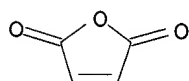
CMF C13 H20 O2





CM 3

CRN 108-31-6
CMF C4 H2 O3



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 6 USPATFULL

ACCESSION NUMBER: 2002:119480 USPATFULL

TITLE: Polymer, resist composition and patterning process

INVENTOR(S): Nishi, Tsunehiro, Nakakubiki-gun, JAPAN
Nakashima, Mutsuo, Nakakubiki-gun, JAPAN
Tachibana, Seiichiro, Nakakubiki-gun, JAPAN
Kinsho, Takeshi, Nakakubiki-gun, JAPAN
Hasegawa, Koji, Nakakubiki-gun, JAPAN
Watanabe, Takeru, Nakakubiki-gun, JAPAN
Hatakeyama, Jun, Nakakubiki-gun, JAPAN
PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002061463	A1	20020523
APPLICATION INFO.:	US 2001- <u>951523</u>	A1	20010914

5/23/02
9-14-01

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-279164	20000914
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MILLEN, WHITE, ZELANO & BRANIGAN, P.C., 2200 CLARENDON BLVD., SUITE 1400, ARLINGTON, VA, 22201	
NUMBER OF CLAIMS:	7	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1766	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides a polymer comprising recurring units of formula (1-1) or (1-2) wherein k is 0 or 1, m is 0, 1, 2, 3 or 4, and n is 1 or 2 and having a weight average molecular weight of 1,000 to 500,000. A resist composition comprising the polymer as a base resin is sensitive to high-energy radiation, has excellent sensitivity, resolution, and etching resistance, and lends itself to micropatterning with electron beams or deep-UV. ##STR1##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 409093-65-8P

(polymers with cyclopentane rings in or adjacent to the chains for

resists patternable by UV or electron beams)

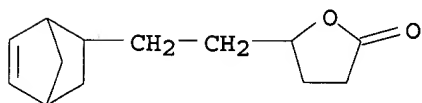
RN 409093-65-8 USPATFULL

CN 2-Propenoic acid, 2-methyl-, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer
with 5-(2-bicyclo[2.2.1]hept-5-en-2-ylethyl) dihydro-2(3H)-furanone and
2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 370089-03-5

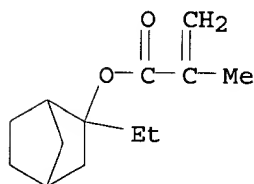
CMF C13 H18 O2



CM 2

CRN 330595-98-7

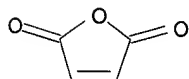
CMF C13 H20 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



L19 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2003 ACS

DUPLICATE 2

ACCESSION NUMBER: 2001:496394 HCAPLUS

DOCUMENT NUMBER: 135:99847

TITLE: Photosensitive polymers and their chemically amplified
resist compositions for ArF excimer laser application
INVENTOR(S): Choi, Sang Jun; Kim, Hyun Uh; Uh, Sang Kyun; Moon, Zu
Tae

PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

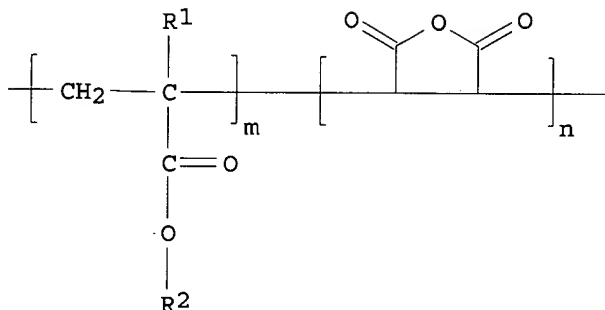
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----

JP 2001188352 A2 20010710
PRIORITY APPLN. INFO.:
GI

JP 2000-354974 20001121
KR 1999-52225 A 19991123

same
priority
document



I

AB The polymers comprise (meth)acrylate-maleic anhydride copolymers I [R1 = H, Me; R2 = acid-decomposable tertiary alkyl; m/(m + n) = 0.5-0.8] with wt.-av. mol. wt. 3,000-100,000. The resist compns. contain the polymers and photoacid generators. The compns. show high dry etching resistance and good adhesion strength and are useful for manuf. of semiconductor devices.

IT 348089-11-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photosensitive (meth)acrylate-maleic anhydride copolymers and their pos. photoresists for ArF excimer laser lithog.)

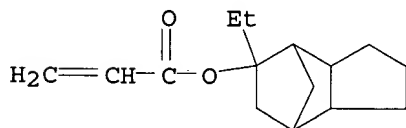
RN 348089-11-2 HCAPLUS

CN 2-Propenoic acid, 5-ethyloctahydro-4,7-methano-1H-inden-5-yl ester, polymer with 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 307495-75-6

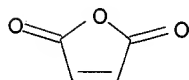
CMF C15 H22 O2



CM 2

CRN 108-31-6

CMF C4 H2 O3



DOCUMENT NUMBER: 135:227403
 TITLE: Polymer with a pericyclic (sic) protective group and resist compositions containing it
 INVENTOR(S): Chang, Sheng-Yueh; Ho, Bang-Chein; Chang, Jui-Fa; Chen, Jian-Hong; Tai, Ming-Chia
 PATENT ASSIGNEE(S): Industrial Technology Research Institute, Chutung, Taiwan; Everlight Chemical Industrial Corp.
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10014493	A1	20010906	DE 2000-10014493	20000323
FR 2805541	A1	20010831	FR 2000-5582	20000502
JP 2001342218	A2	20011211	JP 2000-158742	20000529
			US 2000-514921	A 20000228

PRIORITY APPLN. INFO.:

AB The polymer incorporates a pericyclic protective group, e.g., 2-methylbicyclo[2.2.1]hept-2-yl. The polymer-contg. resist compn. can be used as a chem. reinforced resist material and shows high etching resistance. It is capable of producing a pattern with lines spaced 0.1 .mu.m apart. Thus, 2-norbornene was treated with MeMgCl in THF, and the resulting 2-methyl-2-norbornenol was esterified with methacryloyl chloride. The resulting methacrylate monomer was copolymerized with maleic anhydride, 2-methyl-2-norbornyl norbornenecarboxylate, and tert-Bu octahydro-1,4:5,8-dimethanonaphthalene-2-carboxylate and the copolymer was used as the base for a photoresist.

IT 358626-11-6P

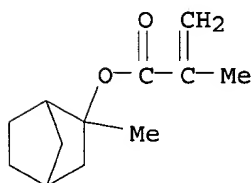
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of photosensitive polymers with polycyclic protective groups for photolithog.)

RN 358626-11-6 HCAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-, 1,1-dimethylethyl ester, polymer with 2,5-furandione, 2-methylbicyclo[2.2.1]hept-2-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2-methylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

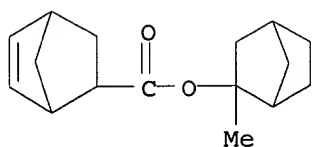
CM 1

CRN 344614-23-9
 CMF C12 H18 O2



CM 2

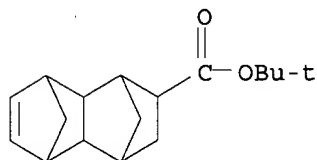
CRN 328087-77-0
 CMF C16 H22 O2



CM 3

CRN 195057-79-5

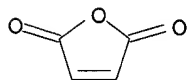
CMF C17 H24 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



REFERENCE COUNT:

7

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 5 OF 6 USPATFULL

ACCESSION NUMBER: 2001:147641 USPATFULL

TITLE: Ester compounds, polymers, resist compositions and patterning process

INVENTOR(S): Kinsho, Takeshi, Nakakubiki-gun, Japan
Nishi, Tsunehiro, Nakakubiki-gun, Japan
Kurihara, Hideshi, Usui-gun, Japan
Nakashima, Mutsuo, Nakakubiki-gun, Japan
Hasegawa, Koji, Nakakubiki-gun, Japan
Watanabe, Takeru, Nakakubiki-gun, Japan

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6284429	B1	20010904
APPLICATION INFO.:	US 2000-512108		20000224 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1999-47406	19990225
	JP 1999-174945	19990622
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Ashton, Rosemary E.	
LEGAL REPRESENTATIVE:	Millen, White, Zelano & Branigan, P.C	
NUMBER OF CLAIMS:	19	

EXEMPLARY CLAIM: 1

LINE COUNT: 2016

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel ester compound having an exo-form 2-alkylbicyclo[2.2.1]heptan-2-yl group as the protective group is provided as well as a polymer comprising units of the ester compound. The polymer is used as a base resin to formulate a resist composition having a higher sensitivity, resolution and etching resistance than conventional resist compositions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 290809-04-0P 290809-11-9P

(novel ester compds., polymers, resist compns. and patterning process)

RN 290809-04-0 USPTATFULL

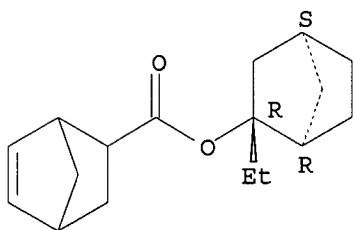
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, (1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl ester, rel-, polymer with rel-(3aR,4S,5R,7S,7aR)-5-ethyloctahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 290808-30-9

CMF C17 H24 O2

Relative stereochemistry.

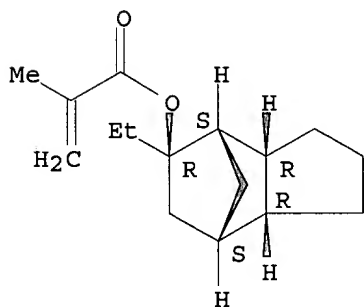


CM 2

CRN 271598-65-3

CMF C16 H24 O2

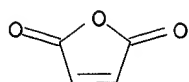
Relative stereochemistry.



CM 3

CRN 108-31-6

CMF C4 H2 O3



RN 290809-11-9 USPATFULL

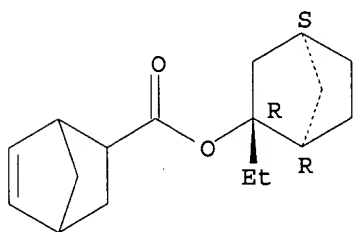
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, (1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl ester, rel-, polymer with rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, 2,5-furandione and tricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 290808-30-9

CMF C17 H24 O2

Relative stereochemistry.

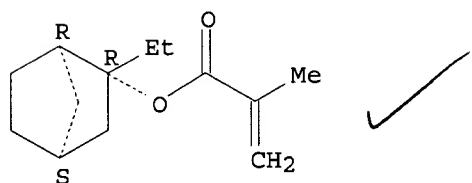


CM 2

CRN 271598-68-6

CMF C13 H20 O2

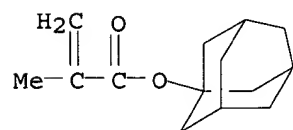
Relative stereochemistry.



CM 3

CRN 16887-36-8

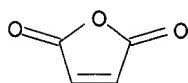
CMF C14 H20 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



L19 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
ACCESSION NUMBER: 2000:608477 HCAPLUS
DOCUMENT NUMBER: 133:215453
TITLE: Novel ester compounds, polymers, resist compositions and patterning process
INVENTOR(S): Kinsho, Takeshi; Nishi, Tsunehiro; Kurihara, Hideshi; Nakashima, Mutsuo; Hasegawa, Koji; Watanabe, Takeru
PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 71 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

8/30/00

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1031879	A1	20000830	EP 2000-301523	20000225
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000309611	A2	20001107	JP 1999-174945	19990622
KR 2000058167	A	20000925	KR 2000-8963	20000224
US 6284429	B1	20010904	US 2000-512108	20000224
PRIORITY APPLN. INFO.:		JP 1999-47406	A	19990225
		JP 1999-174945	A	19990622

AB A novel ester compd. having an exo-form 2-alkylbicyclo[2.2.1]heptan-2-yl group as the protective group is provided as well as a polymer comprising units of the ester compd. The polymer is used as a base resin to formulate a resist compn. having a higher sensitivity, resoln. and etching resistance than conventional resist compns.

IT **290809-04-0P 290809-11-9P**
RL: POF (Polymer in formulation); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (novel ester compds., polymers, resist compns. and patterning process)

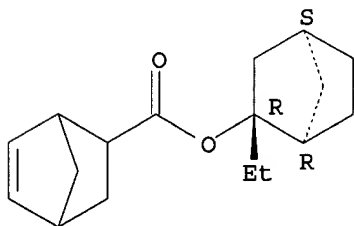
RN 290809-04-0 HCAPLUS

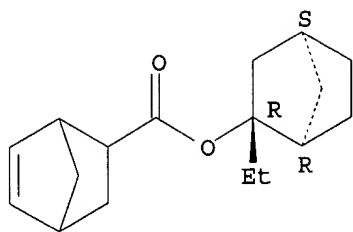
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, (1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl ester, rel-, polymer with rel-(3aR,4S,5R,7S,7aR)-5-ethyloctahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 290808-30-9
CMF C17 H24 O2

Relative stereochemistry.



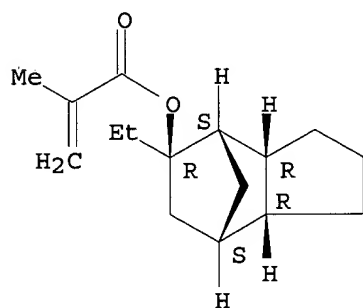


CM 2

CRN 271598-65-3

CMF C16 H24 O2

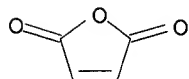
Relative stereochemistry.



CM 3

CRN 108-31-6

CMF C4 H2 O3



RN 290809-11-9 HCAPLUS

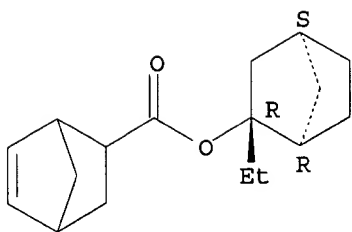
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, (1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl ester, rel-, polymer with rel-(1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, 2,5-furandione and tricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 290808-30-9

CMF C17 H24 O2

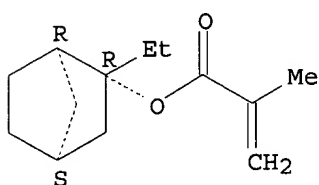
Relative stereochemistry.



CM 2

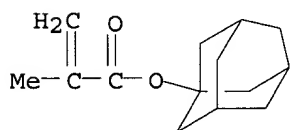
CRN 271598-68-6
CMF C13 H20 O2

Relative stereochemistry.



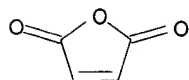
CM 3

CRN 16887-36-8
CMF C14 H20 O2



CM 4

CRN 108-31-6
CMF C4 H2 O3



REFERENCE COUNT:

6

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT